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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/788,626	02/13/2001	Andrew J. Flint	200125.401	4380
500	7590	01/12/2005	EXAMINER	
SEED INTELLECTUAL PROPERTY LAW GROUP PLLC			PAK, YONG D	
701 FIFTH AVE			ART UNIT	
SUITE 6300			PAPER NUMBER	
SEATTLE, WA 98104-7092			1652	

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n No.

09/788,626

Applicant(s)

FLINT ET AL.

Examiner

Yong D Pak

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-- Th MAILING DATE of this communication appears on th cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 1,3-5 and 8-16 is/are pending in the application.
- 4a) Of the above claim(s) 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,8-13,15 and 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

Claims 1, 3-5 and 8-16 are pending. Claim 14 is withdrawn. Claims 1, 3-5, 8-13 and 15-16 are under consideration.

### ***Election/Restrictions***

Applicant's election without traverse of Group I with an election of a human PTP-1B, wherein the tyrosine corresponding to amino acid position 46 of the PTP-1B amino acid sequence is replaced with a phenylalanine, in Paper No. 12 is acknowledged.

Claim 14 is withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 12.

### ***Response to Arguments***

Applicant's arguments filed on October 6, 2004 have been fully considered but they are not persuasive.

### ***Claim Rejections - 35 USC § 103***

Claims 1, 3-5, 8-13 and 15-16 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Tonks et al. (WO 98/04712 or U.S. Patent No. 5,912,138) in view of Flint et al. and Schade et al.

Applicants argue that there is no suggestion of combining the above references because the substrate trapping mutant PTPs of Tonks et al. is catalytically attenuated

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and the combined references do not teach methods for screening agents by using catalytically inactive substrate trapping mutant PTPs. Examiner respectfully disagrees.

Tonks et al. teach a method of identifying an agent, which alters the interaction between a substrate-trapping mutant of a protein tyrosine phosphatase (PTP) and a substrate capable of generating a fluorescence energy signal (pages 6-7 and 16-17 of WO 98/04712 or Column 3, line 45 through Column 4, line 9 and Column 9, lines 12-50 of U.S. Patent No. 5,912,138). Tonks et al. teach that to facilitate the determination of the presence of the protein/PTP complex, labeled phosphorylated substrates can be used, such as a fluorescein or a rhodamine. One of ordinary skill in the art would have recognized using different spectroscopic methods in detecting the substrate/PTP complex. Schade et al. teach a method of detecting a substrate/enzyme complex in solution, wherein the substrate has a detectable fluorophore (abstract, Columns 1-4 and 6-8). Even though the substrate trapping mutant PTP of Tonks et al. has decreased or no catalytic activity upon binding to its substrate, the method of Schade et al. is able to detect PTP/substrate complexes since the FP signal of the substrate is different when bound to PTP. The method of Schade et al. measures "enzymatic activity" by detecting a difference in FP signals between a substrate and said substrate bound to an enzyme.

Applicants also argue that Flint et al. does not teach a substrate trapping mutant comprising a mutant at amino acid position 46 and 181 of human PTP 1B. While this is true, the claims do not recite a limitation that the mutant PTP 1B have both a mutation of the amino acid at position 46 and a mutation at amino acid at position 181. The

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mutant of Flint et al. is able to trap substrates, even though comparatively weaker than other PTP 1B substrate trapping mutant.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to identify agents that alter the interaction between the mutant of Tonks et al. or Flint et al. by measuring fluorescent polarization signal taught by Schade et al. The motivation of using fluorescent polarization signals to monitor the interaction between the PTP and its substrate is that fluorescence polarization assays is a rapid method of assaying enzymatic activity while the enzyme, substrate and test compounds are in solution. One of ordinary skill in the art would have had a reasonable expectation of success since fluorescence polarization assays are routinely performed in the art to measure enzymatic activity or binding between an enzyme and its substrate.

None of the claims are allowable.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

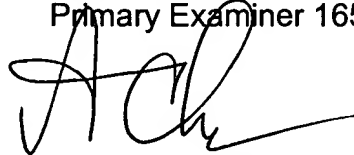
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yong Pak whose telephone number is 571-272-0935. The examiner can normally be reached 6:30 A.M. to 5:00 P.M. Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy can be reached on 571-272-0928. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and 703-872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1600.

Yong D. Pak  
Patent Examiner 1652

Manjunath Rao  
Primary Examiner 1652



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